"Results of Recent Magnetic Observations in Mexico (1906–8)," by Felipe Valle; "The Magnetic Storms of September, 1908," by O. H. Tittmann; "Letters to Editor," "Notes," etc.

THE NEWEST ANCIENT MAN

Yesterday (December 14) before the Academy of Sciences Professor Edmond Perrier, director of the Museum d'Histoire Naturelle exhibited a skull to which he ascribes a great importance. The skull, together with other parts of the skeleton (bones of the upper and lower limbs), was found about six months ago by two abbés (Bouyssonie and Bardon) in some excavations being made near Chapelle-aux-Saints in the Corrèze.

The rock strata in which these bones were found are, according to M. Perrier, of middle Pleistocene age.

The skull is that of a man of extremely low type, an ape-man, or perhaps of a man-ape of greater cranial capacity than any at present known. This great cerebral development leads M. Perrier to consider it, on the whole, a human skull. But the very thick, low cranial dome, the flattened forehead and pronounced orbital ridges, the broad nose separated from the forehead by a deep furrow, and the much elongated snout-like maxillaries combine to give the skull a marked gorilla-like seeming. The brain cavity, however, is as already said, very much larger than that of the gorilla or any other present-day anthropoid.

The limb bones are curved and present a conformation which indicates that this Pleistocene man walked more often on all-fours than in an erect position. The bones seem to be fairly intermediate between those of a man and those of the present-day anthropoids.

Altogether Professor Perrier (whose scientific standing gives his opinions in the matter high authority) believes that he has in his hands—the specimens have been purchased by the museum—remains much more ancient than those of Neanderthal or Spy, and actually representing a type intermediate between Pithecanthropus and present man.

Those interested should watch for the more detailed and authoritative report of Professor Perrier's account which will appear in the *Comptes Rendus*.

VERNON L. KELLOGG

PARIS,
December 15

THE INDIANA UNIVERSITY EXPEDITION TO BRITISH GUIANA

PROFESSOR CARL EIGENMANN, dean of the Graduate School of Indiana University, has just returned from a four months' trip to British Guiana, where he was engaged in the study and collection of South American fishes. He was accompanied by S. E. Shideler as a volunteer assistant. Professor Eigenmann is now engaged in a monograph of the fresh-water fishes of tropical America. The trip to British Guiana had three objects. It was intended to collect as many species of fresh-water fishes as possible from one of the South American rivers flowing north; to photograph living fishes, and to collect on the plateau of Guiana.

Fishes were collected near the mouths of rivers from the Berbice River on the east to Morawhana near the Orinoco on the west. In the Demarara River collections were made at Georgetown, at Nismar, near the head of tide water, about sixty miles from the coast, and at Malali, almost thirty miles further up stream at the first rapids.

In the Essequibo River collections were made at Bartica, Rockstone, Crab Falls and the Warraputa Cataract.

For an attack on the Guiana Plateau the Potaro River was selected. It is a tributary of the Essequibo about ninety miles from the coast. There are a series of short cataracts with long stretches of navigable water in between. The first of the rapids are at Tumatumari where extensive collections were made. From the next rapids, near Potaro Landing a path of seven miles brings one above the Ichaura, Aurituk, Cōbanatuk and Pakatuk Cataracts to Cangaruma. From here on the trip was continued with the boats and crew of sixteen Indians, generously put at the service of the expedition by Messrs. G. Linnel and

Edward Bovalius of the Essequibo Exploration Company.

Progress above Cangaruma was retarded slightly by fever. A portage at Amatuk and another at Waratuk with two days paddling brought the expedition to Turkeit at the base of a series of Cataracts at the head of which is Kaieteur Fall, the show place of British Guiana. The Potaro here leaps 741 feet from the plateau to the Potaro Gorge below.

A portage of 2½ hours carries one from Tukeit to the Savannah above the falls. Mr. Schideler returned from this point to collect near the coast, while Professor Eigenmann continued with thirteen Indians to Holmia and Arnataima, the first cataract above Holmia.

Thorough collecting was undertaken in the Potaro above and below the Kaietue with the use of hooks, seines, dynamite and most effectively with Haiara, the poison used by the natives in their fishing. The expedition was thoroughly satisfactory although few photographs of fishes could be taken on account of the labor necessary to secure suitable specimens.

It is hoped that it will be made possible to continue the exploration of the Guiana Plateau which sends rivers over heavy falls to the Essequibo, Orinoco and Amazon from around Roraima, possibly the oldest land area of South America.

The bit of most satisfactory discovery is that Gasteropelecus, an aberrant characin, flies. This fish has the most amazing structure for a characin. It possesses huge pectorals, a tremendous "sternum" and pectoral muscles to correspond. It was frequently seen to dart from in front of the boat, float its pectorals while part of its tail and sternum remained in the water and then in the last five or ten feet of its 45-foot flight clear the water. As long as part of the fish remains in the water the pectorals touch the water with each stroke. Not the least interesting fact is that their line of evolution from generalized Characins is indicated by the still-existing genera like Chalceus and Pseudocorynosoma.

SPECIAL ARTICLES

SPECTRUM OF COMET MOREHOUSE

The spectrum of this comet has been under observation here since October 28, with the use of a Zeiss photographic doublet of 145 mm. aperture and 81 cm. focal length, made of "ultra-violet" glass, over which was placed a 15° objective-prism of the same glass and aperture. With an exposure of fifteen minutes the head of the comet then gave a sufficiently strong impression, showing a row of seven knots. With longer exposure the tail could be well traced from some knots until it ran off the plate, at a distance of 3°.

The absence of a continuous spectrum was striking, and on no plate thus far obtained has it been certainly visible. This indicates that during this period the reflected light has been exceedingly weak in both head and tail relatively to the intrinsic light due to the carbon and cyanogen bands.

A very small quartz spectrograph was also attached to the same telescope, and plates having the advantage of a comparison spectrum were obtained on four nights. Twenty-one satisfactory plates were obtained with the objective-prism on eleven dates. All the plates were made by Parkhurst, with assistance, when necessary, from Frost.

The measurements of wave-length are quite uncertain on account of the very small scale of the spectrum with either apparatus—only 2.5 mm. from $H\beta$ (λ 4861) to $H\theta$ (λ 3798) with quartz spectrograph (3.0 mm. with objective-prism)—but we have been surprised at the accordance of our measures on different plates. It is difficult to make settings on the edges of the cometary bands on account of their diffuseness, so that it is often necessary to be content with settings on the centers of the knots.

We regard the identification as certain for the third and fourth carbon bands (edges at λ 5165 and λ 4737) and the first, third and fourth cyanogen bands (λ 4601, 3883, 3590). These carbon bands are two of the three bands characteristic of cometary spectra, and often, perhaps generally, ascribed to a hydrocarbon. The other one, at λ 5635, did not affect our